

CLAIMS

1. A braking device for an electric motor of a power tool, comprising a short circuit switch for short circuiting an armature winding of the electric motor during a braking process, said short circuit switch for controlling its switching condition having a control input; a control unit connected with said control input of said short circuit switch for performing a phase control of said short circuit switch during the braking process in order to avoid brush fire.

2. A braking device as defined in claim 1; and further comprising a delay switch for separation of a current supply, said delay switch being operatable by a user and switches off with a time delay after a switch handling of the user.

3. A braking device as defined in claim 2, wherein said delay switch is formed so as to provide a predetermined time delay between the

switch handling of the user and the separation of the current supply, wherein the time delay is at least as long as the braking process.

4. A braking device as defined in claim 2, wherein said delay switch is connected with said control unit for informing said control unit about a switch handling of the user.

5. A braking device as defined in claim 1; and further comprising a handling sensor for recognizing a handling of the power tool, said handling sensor being connected with said control unit.

6. A braking device as defined in claim 1; and further comprising a rotary speed sensor for detecting a rotary speed of the electric motor, said rotary speed sensor being connected with said control unit for

influencing the braking process depending on a rotary speed of the electric motor.

7. A braking device as defined in claim 1; and further comprising a safety switch for short circuiting a current supply in the event of a disturbance, said safety switch having a control input connected to said control unit.

8. An electrical device formed as a power tool, comprising an electric motor having an armature winding; and a braking device for said electric motor, said braking device including a short circuit switch for short circuiting said armature winding of the electric motor during a braking process, said short circuit switch for controlling its switching condition having a control input; a control unit connected with said control input of said short circuit switch for performing a phase control of said short circuit switch during the braking process in order to avoid brush fire.

9. A method of braking an electric motor of an electrical device formed as a power tool with an armature winding, comprising the steps of short circuiting the armature winding by a short circuit switch; and phase controlling the short circuit switch for avoiding brush fires during braking of the electric motor.

10. A method of braking as defined in claim 9; and further comprising supplying current to a field winding of the electric motor during braking of the electric motor, at least over a certain time.

11. A method of braking as defined in claim 9; and further comprising driving the electric motor of the power tool which can have different operational conditions; determining an actual operational conditions of the power tool; and influencing the phase control of the short circuit switch depending on the determined operational condition.

12. A method of braking as defined in claim 11; and further comprising braking the electric motor faster in a first operational condition of the power tool than in a second operational condition of the power tool.